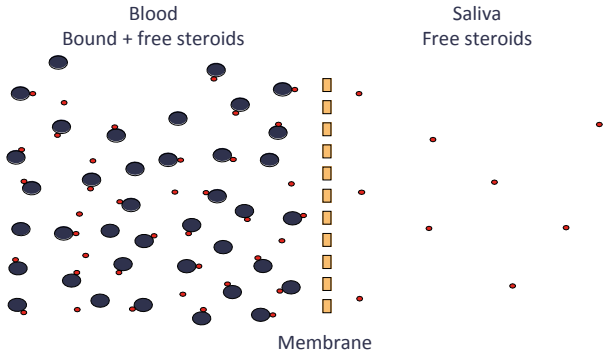
Innovative Saliva Diagnostics.

Specially developed and validated for saliva.

Steroid hormone assessment from saliva allows the specific determination of the biologically active or "free" fraction of target hormones. IBL International provides you with highly sensitive luminescence immunoassays and ELISAs which have been specially developed and validated for saliva.



Diffusion of free steroid hormones from blood into saliva
Free and protein bound steroid hormones in blood and free hormones in saliva. The concentration of free hormones is the same on both sides of the membrane.

ALL ABOUT SALIVA

Working with saliva has many advantages: sample collection is non-invasive, painless and stress-free. Multiple specimens may be collected anytime, anywhere, with no need for medical staff. It is so simple that even special patients such as children and the elderly can easily manage it themselves. Saliva sampling can be performed during physical exercise and rest periods, so athletes can be monitored during training.

IBL International has introduced a special ultrapure polypropylene sampling device called SaliCap, which ensures excellent recovery of progesterone in the saliva.

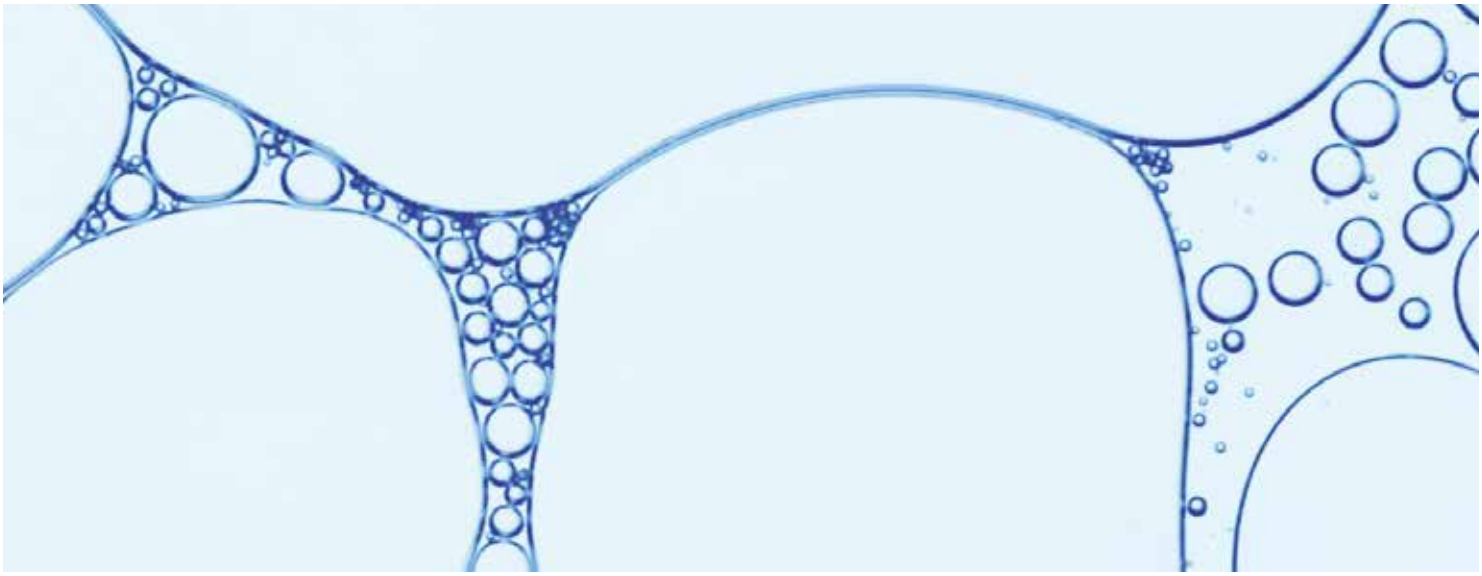
APPLICATIONS FOR SALIVARY DIAGNOSTICS

Saliva is the specimen of choice in a variety of traditional medical care situations as well as in the emerging areas of health measurement and monitoring. With the ability to evaluate a pooled saliva sample from multiple collections it is possible to get a reliable assessment of hormone concentration even in cases of marked diurnal fluctuation.

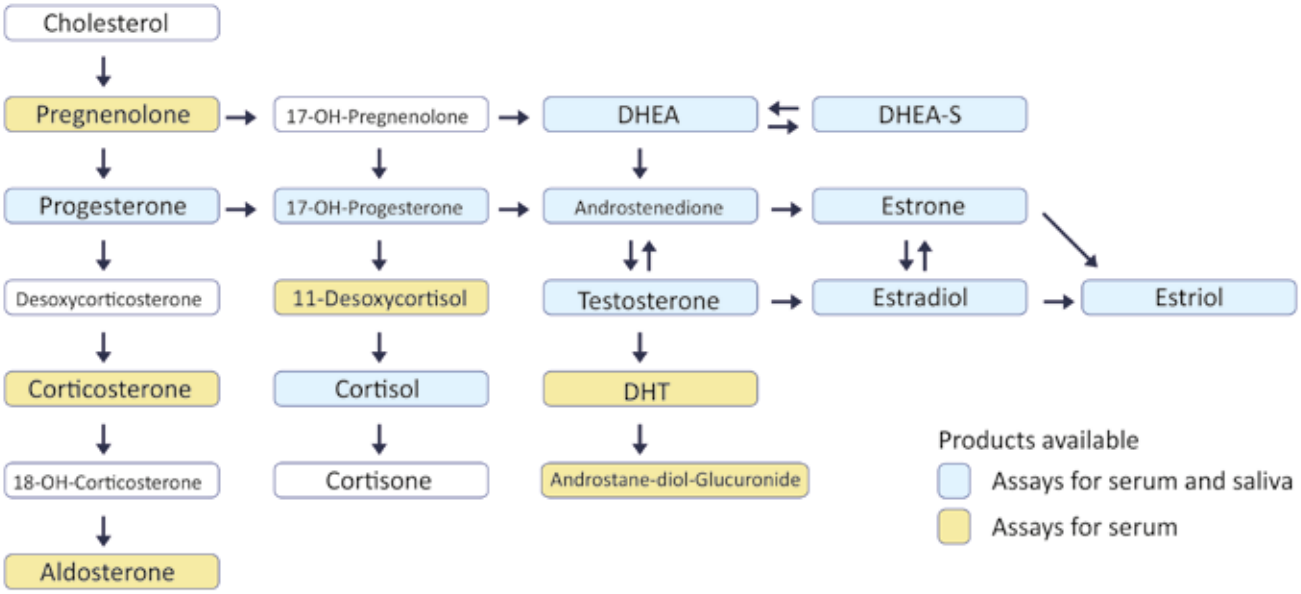
Applications

- Psychology
- Occupational medicine
- Endocrinology
- Anti-aging medicine
- Neuroendocrinology
- Oral medicine
- Sports medicine
- Immunology
- Research

Additional information material and publications are available upon request!



STEROID PATHWAY



PROFICIENCY TESTING

IBL International was the first company to implement a quality control system for salivary steroid measurement. We are happy to invite any laboratories working with saliva samples to participate in this service, free of charge! In this way we intend to provide a foundation for inter-laboratory consistency in saliva diagnostics.

Broad level of diagnostic applications.

ENDOCRINOLOGY

Endocrinology is related to the biology and medicine of the endocrine system, its diseases and specific secretion products, known as “hormones”.

Androgen Status

Free Testosterone is an ideal diagnostic tool for androgen levels in both men and women, but accurate measurement of testosterone remains a challenge. The determination of the blood testosterone concentrations in serum by conventional immunoassays is inaccurate in men, and even more so in women and children. Directly measuring testosterone in saliva is a better alternative to blood measurement: only the free, biologically active fraction is represented in saliva.

The IBL International luminescence immunoassay shows high analytical and functional sensitivity, and allows quantification of the very low concentration in saliva, as well as in diluted serum.
Studies show that free salivary testosterone levels in morning samples correlate well with calculated free testosterone in blood, both in healthy men and in patients with androgen deficiency.

Cushing’s Syndrome

Cushing’s Syndrome, for example, results from excessive secretion of one or all of the adrenocortical hormones, mainly cortisol. This disease is characterized by failure to reach the circadian nadir in cortisol secretion late at night. This is quite a difficult endocrine pathology to diagnose because of the very common phenotype: obesity, hypertension, depression, alcoholism, etc. Furthermore it is relatively unusual, though growing increasingly common.

RELATED PRODUCTS

RE52671
Androstenedione Saliva ELISA

RE52611, RE62111
Cortisol Saliva ELISA; Luminescence IA

RE52651, RE62051
DHEA Saliva ELISA; Luminescence IA

RE52661
DHEA-S Saliva ELISA

30121045, RE62141
17beta-Estradiol Saliva ELISA; Luminescence IA

30121046
Estriol high sensitive Saliva ELISA

DB62021
Estrone Luminescence IA

DM59171
IgA Saliva ELISA

RE54041
Melatonin direct Saliva ELISA

RE52271
17-OH-Progesterone Saliva ELISA

RE52281, RE62021
Progesterone Saliva ELISA; Luminescence IA

RE52631, RE62031
Testosterone Saliva ELISA; Luminescence IA

RE69981, RE69985
SaliCap Set

Late-night salivary cortisol is now a well-accepted and recommended screening test for Cushing's syndrome. This method shows high specificity and sensitivity, and ELISA or luminescence assays are very easy to handle. The IBL International Cortisol salivary luminescence assay only requires 20µL of saliva, making it easily practicable even with difficult patients such as children or the elderly.

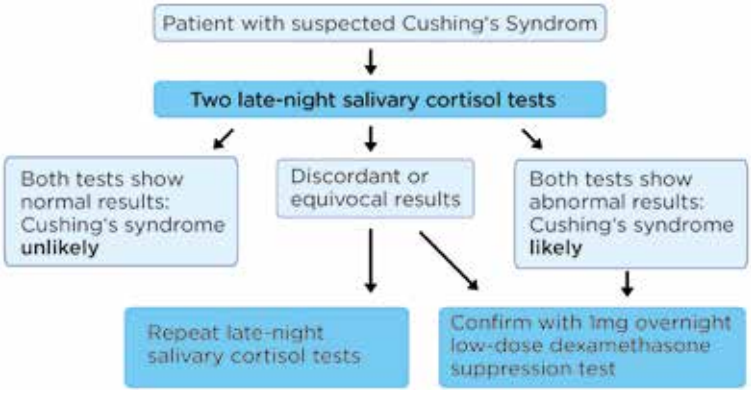


Figure: According to Raff H, Pituitary 2012; 15:64-70

SPORTS MEDICINE

During physical training, the levels of different hormones change depending on the intensity of exercises.

It is particularly important in sports medicine to note that hormone levels and exercise-induced hormone changes vary among subjects with different types of training. Monitoring hormone levels during sport sessions is found to be a useful research tool for optimizing athletes' training status and identifying any excessive exercise liable to result in overtraining syndrome.

Overtrained athletes can have alterations in cortisol, adrenocorticotropic hormone, testosterone, and other hormone levels (Kreher et al. Sports Health 2012; 4(2): 128-138).

Measurement of IgA in saliva samples will also provide information on the athlete's immune status.

ANTI-AGING MEDICINE

A proper hormonal balance of different hormones, such as cortisol, DHEA, testosterone, progesterone, estradiol and others, is a key to good health.

Thus, the normal DHEA concentration changes significantly with age. The lowest level of DHEA is observed in persons over 80 years old.
DHEA has been found to affect various systems of the body and have anti-aging and immune enhancing effect. Studies show the evidence of decreasing level of DHEA and increased Cortisol/DHEA ratio to be involved in the cognitive and immune impairments in old people, as well as influencing their ability to perform daily tasks. Higher Cortisol/DHEA ratio have been associated with immune impairments and infection risk in older adults exposed to chronic physical and psychological stress (Heaney et al. Psychoneuroendocrinology 2012, 37(3), 341-349).

Salivary testosterone is also a good marker for behavioral research, studies of emotional and cognitive functions and their relationships (Ackerman et al. Psychoneuroendocrinology 2012; 37, 1417-1424).

Hormone replacement therapies may readily be adjusted by assessing salivary hormones.

Psychology and occupational medicine.

Psychological research is related to the science of behavior and mental processes; it includes areas such as biological psychology, cognitive psychology and social psychology.

Sleep disorders
Occupational diseases include sleep disorders, occurring mostly in shift workers and leading to psychological and physical stress.

In this kind of disorder it is helpful to evaluate individual circadian rhythms, combining measurements of melatonin and cortisol concentration: both hormones are produced according to a circadian rhythm, with contrary circadian patterns.

Melatonin is the key substance promoting night-time sleep; it is extremely low during the day and rises rapidly around 11-12 p.m. (up to ten or twenty times daytime levels).

Normal cortisol concentration in human saliva during the day is highly dynamic. Cortisol typically peaks in the early morning: the timing of this cortisol peak does not depend on clock time nor is it influenced by daylight: it is set by the individual's time of waking.

Both hormones are regarded as stress markers. Recent studies have shown that melatonin can influence cortisol levels. These results are useful in the research of sleep disorders.

PRODUCTS

RE80111
alpha-Amylase Saliva Assay (EA)

RE52611, RE62111
Cortisol Saliva ELISA; Luminescence IA

RE52651, RE62051
DHEA Saliva ELISA; Luminescence IA

RE52661
DHEA-S Saliva ELISA

30121045, RE62141
17beta-Estradiol Saliva ELISA; Luminescence IA

30121046
Estriol high sensitive Saliva ELISA

DB62021
Estrone Luminescence IA

DM59171
IgA Saliva ELISA

RE54041
Melatonin direct Saliva ELISA

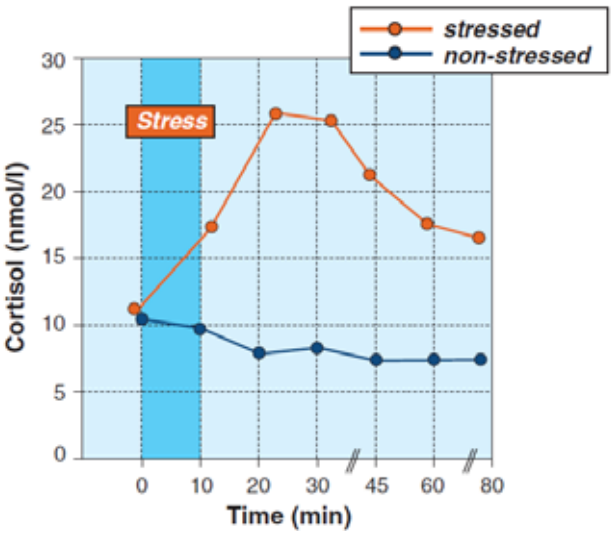
RE52271
17-OH-Progesterone Saliva ELISA

RE52281, RE62021
Progesterone Saliva ELISA; Luminescence IA

RE52631, RE62031
Testosterone Saliva ELISA; Luminescence IA

Burnout
Recent stress research indicates that more and more people are concerned about work-related stress; this makes occupational stress as important for companies as workplace accidents. The World Health Organization (WHO) has described stress as “one of the major threats of the 21st century”. For this reason more and more institutes and physicians are involved in identifying and measuring biological parameters which can reveal individuals’ psychobiological and physiological status.

Please, visit our homepage www.ibl-international.com for more details of assays of other biological fluids besides saliva, or contact us directly for more information.



Typical profiles for cortisol and melatonin.

Stress research
Stress research in clinical psychology very often relies on questionnaires, but psychologists are always looking for biological parameters; free salivary cortisol and DHEA are very well established, non-invasive markers for hypothalamus pituitary adrenal (HPA) axis activity (internal studies; Wittchen, Schönfeld et al, Int. J. Methods Psychiatr. Res. 2012; 21(2): 98-116).

Furthermore, hair cortisol analysis provides a valuable and sensitive retrospective measure of cumulative cortisol secretion over prolonged periods of time (Stalder et al, Psychoneuroendocrinology 2012; 37, 602-610).

Salivary α-amylase, too, seems to be a well characterized indicator for sympathetic nervous system activity. This parameter exhibits relationships with chronic stress, post-traumatic stress disorder, behavior, cognitive functions, and health.

PRODUCTS

RE53971
Chromogranin A ELISA

30147233
Interleukin-10 (IL-10) ELISA, RUO

BE58101
Interleukin-10 high sensitivity ELISA, RUO

30150433
Interleukin-1 alpha (IL-1a) ELISA, RUO

30149807
Interleukin-2 (IL-2) ELISA, RUO

BE58021
Interleukin-2 high sensitivity ELISA, RUO

30147231
Interleulin-6 (IL-6) ELISA, RUO

BE58061
Interleukin-6 high sensitivity ELISA, RUO

RE53171
Insulin ELISA

30147243
MMP-9 ELISA, RUO

RE59321
Neopterin ELISA

RE53141
Osteocalcin ELISA

BE55041

TGF-beta1 ELISA, RUO

30147293
TNF-alpha (TNF-α) ELISA, RUO

RUO = Research Use Only

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